



User Guide

DERMALOG FLC1 Light Edition

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Hardware documentation:

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Revision history

Document Version	Date	Author	Changes
1.0	2020-07-20	DERMALOG	Initial document

Table 1: Revision history

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Introduction

The DERMALOG FLC1 Light Edition captures facial images and detects the body temperature of a person.

This user guide describes the DERMALOG FLC1 Light Edition. It gives information on safety instructions, technical data, product description, installation, maintenance and disposal.



Figure 1: DERMALOG FLC1 Light Edition

1 Audience

This document is provided for users of the DERMALOG FLC1 Light Edition.

Any person working with the DERMALOG FLC1 Light Edition must have previously read this document.

2 Document conventions

TERMS AND DEFINITIONS

Term	Definition
capture	The method of taking a biometric sample from an end user.

Table 2: Terms and definitions

ABBREVIATIONS

Abbreviation	Meaning
USB	Universal Serial Bus

Table 3: Abbreviations

TYPOGRAPHIC CONVENTIONS

Typographic Convention	Used for
bold	Important text passages In step-by-step instructions and their prerequisites: names of applications, products, chapters, GUI elements, tabs, screen sections and areas, keys, menu paths
italic	Directories, file names, values, document names, messages, email addresses and place holders in screen descriptions
lowercase	URLs and websites

Table 4: Typographic conventions

SYMBOLS AND ICONS

Symbol / Icon	Meaning	
>	Introduces a system response	
-;	Notes, usage tips, or additional information	
•	Indicates an important text passage	
NOTICE	NOTICE is used to address practices to property damage (and not related to personal injury). No safety alert symbol is used.	
A CAUTION	CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.	

Table 5: Symbols and icons

3 Safety instructions

IMPORTANT READ CAREFULLY BEFORE USE KEEP FOR FUTURE REFERENCE

These safety instructions must be read and understood prior to installation and operation by any person working with the DERMALOG FLC1 Light Edition. Keep these instructions always readily available at the DERMALOG FLC1 Light Edition.

Also pay attention to any warning messages shown by DERMALOG software, to any signs or labels on the DERMALOG FLC1 Light Edition and to any further DERMALOG instructions shipped with the DERMALOG FLC1 Light Edition.

3.1 Purpose of this product

The DERMALOG FLC1 Light Edition captures facial images and detects the body temperature of a person.



The DERMALOG FLC1 Light Edition detects the body temperature of a person in order to make a preselection. The temperature detection is no medical fever measurement. In suspected cases a reference measurement with the clinical thermometer is necessary.

3.2 General



CUTTING DAMAGE.

Always check the DERMALOG FLC1 Light Edition for any visible damages before use. Do not use the DERMALOG FLC1 Light Edition if you see any visible damage (for example, sharp edges, broken safety coverings and so on) as this may cause injury.

Do not use a damaged DERMALOG FLC1 Light Edition.

NOTICE

To avoid damage on a USB cable, do not step on the cable, do not place heavy items on it and do not pull it forcefully. When disconnecting a USB cable, firmly grasp the USB plug to remove it from the computer.

Avoid any mechanical load on the DERMALOG FLC1 Light Edition, especially on the glass coverings of the cameras and the infrared projector, to prevent the DERMALOG FLC1 Light Edition from breaking. Never place heavy items on the DERMALOG FLC1 Light Edition.

3.3 Transportation and storage

TRANSPORTATION

NOTICE

Use the packaging provided by DERMALOG.

Only use covered vehicles or covered ships.

NOTICE

The environmental conditions during transport must meet the conditions specified in the technical data (see chapter 5).

If transported by air, store the DERMALOG FLC1 Light Edition in hermetic and heated compartments so that environmental conditions comply with the technical data (see chapter 5).

STORAGE

NOTICE

The environmental conditions during storage must meet the conditions specified in the technical data section (see chapter 5).

The air of the location where the DERMALOG FLC1 Light Edition is stored must not contain corrosive or active substances.

3.4 Positioning and environment

NOTICE

Only use the DERMALOG FLC1 Light Edition indoors.

Place the DERMALOG FLC1 Light Edition on a suitable mount (e.g. a tripod) or a flat surface that is at room temperature.

Observe the recommended temperature range for the DERMALOG FLC1 Light Edition to operate (see chapter 5). To achieve the best possible results, it is recommended to operate the DERMALOG FLC1 Light Edition under the following conditions:

20 °C to 24 °C (68° F to 76 °F), humidity 20-50 %.

Provide adequate space around the DERMALOG FLC1 Light Edition for operation and maintenance. Air circulation is required to cool the device. Do not restrict the air flow around the device.

Use the DERMALOG FLC1 Light Edition only in a dry environment.

Keep the working environment always clean and dust-free.

Do NOT expose the DERMALOG FLC1 Light Edition to:

- direct sunlight
- excessive dust, heat or humidity (for example, through a water heater or humidifier)
- an atmosphere where ammonia gas or volatile or flammable chemicals are present (for example, alcohol, paint thinner)
- vibrations
- rapid temperature changes
- magnetic fields (for example, if placed near loudspeakers, televisions or radios)

3.5 Installation

NOTICE

Do not use a USB cable longer than 2 m. If you want to connect the DERMALOG FLC1 Light Edition via a USB hub, always use a self-powered (active) hub.

Connect the DERMALOG FLC1 Light Edition only to suitable IT systems (see chapter 5).

3.6 Operation

Make sure all people working with the DERMALOG FLC1 Light Edition have read and understood this user guide and received a thorough training.



CAUTION

The DERMALOG FLC1 Light Edition contains a camera of the Intel® RealSense™ D400 series. The Intel® RealSense™ D400 series is classified as Class 1 Laser Product under the EN/IEC 60825-1, Edition 3 (2014) internationally and IEC60825-1, Edition 2 (2007) in the US.

The Intel® RealSense™ D400 series complies with US FDA performance standards under 21 CFR 1040.10 for laser products except for deviations pursuant to Laser Notice No. 50 dated June 24, 2007.



Caution – Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.



Do not power on the product if any external damage was observed.

There are no service/maintenance, modification, or disassembly procedures for the stereo module and infrared projector. The system integrator must return modules before any failure analysis is performed.

- Do not attempt to open any portion of this laser product.
- Invisible laser radiation when opened. Avoid direct exposure to beam.
- There are no user serviceable parts with this laser product.
- Modification or service of the stereo module, specifically the infrared projector, may cause the emissions to exceed Class 1.
- No magnifying optical elements, such as eye loupes and magnifiers, are allowed.
- Do not try to update camera firmware that is not officially released for the specific camera module SKU and revision.

NOTICE

If the DERMALOG FLC1 Light Edition makes strange noises, or gives off smoke, heat or strange odors, or other abnormalities occur when in use, immediately disconnect it from the computer. Then contact DERMALOG.

Keep liquids away from the DERMALOG FLC1 Light Edition.

Do not drop the DERMALOG FLC1 Light Edition or subject it to impact or strong shock.

Use the DERMALOG FLC1 Light Edition only for the purpose it has been designed for.

Do not connect other devices to the same USB hub.

3.7 Maintenance

NOTICE

Never disassemble, modify, repair, remove parts or open the housing of the DERMALOG FLC1 Light Edition, unless expressly authorized by DERMALOG. Disregarding this warning can result in serious damage to the DERMALOG FLC1 Light Edition and will cause the loss of any warranty.

If you need to return the DERMALOG FLC1 Light Edition for repair, use a suitable packing material to avoid further damage (preferrably the original packing material).

Check the DERMALOG FLC1 Light Edition regularly for damage and malfunction, especially if the operating personnel change frequently. In case of malfunction, disconnect the USB cable and stop using the DERMALOG FLC1 Light Edition.

3.8 Disposal

NOTICE

When disposing the DERMALOG FLC1 Light Edition, make sure you comply with any laws and regulations applicable at your location.

4 Delivery package content

The delivery package contains:

DERMALOG FLC1 Light Edition



USB 3.0 cable (USB-C to USB-A, 1 m length)



Unless otherwise expressly agreed, download the purchased software from the DERMALOG Support Center (https://support.dermalog.com).

5 Technical data

The technical data of the DERMALOG FLC1 Light Edition are listed in Table 6.

Technical Features	
Sensors	Thermal camera RGB camera 3D camera
Detection accuracy of body temperature	± 0.5 °C (± 0.9 °F)
Measuring speed	0.7 - 2 s
Weight	130 g
Dimensions	120 mm x 37 mm x 23 mm
Interface	USB 3.0 SuperSpeed type C (5 Gbit/s)
Power supply & current consumption	USB 3.0: 5 Volt ± 5 %, 900 mA max.
SDK	.Net/C/C++/Java (coming soon)
Application software	DERMALOG Fever Detection
Ambient temperature and humidity during operation	10 °C to 30 °C (50°F to 86°F), humidity 20 – 75 % non-condensing
	Please note:
	To achieve the best possible results, it is recommended to operate the DERMALOG FLC1 Light Edition under the following conditions:
	20 °C to 24 °C (68° F to 76 °F), humidity 20-50 %
Ambient temperature and humidity when storing or transporting the device	0 °C to 40 °C (32°F to 104°F), humidity 10 – 90 % non-condensing

Table 6: Technical data of DERMALOG FLC1 Light Edition

The software and hardware requirements for operating the DERMALOG FLC1 Light Edition are listed in Table 7.

Requirements	
Processor	Intel® i5/8th generation (similar or equal)
RAM	8 GB DDR3 (minimum), 16 GB DDR4 (recommended)
Hard Drive	1 GB (SSD recommended)
Interfaces	USB 3.0 SuperSpeed
Graphics card	Additional graphics card is recommended
Operating system	Windows 10

Table 7: Software and hardware requirements

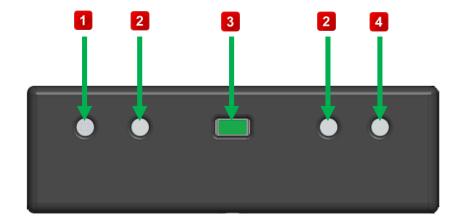
6 Product description

The DERMALOG FLC1 Light Edition is intended to capture facial images and to detect the body temperature of a person.

6.1 Hardware

6.1.1 General views

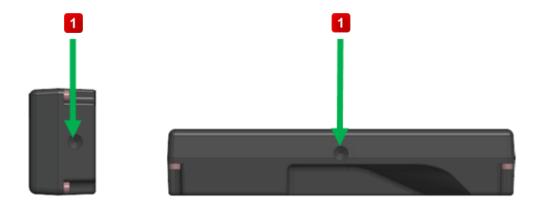
Figure 2, Figure 3 and Figure 4 show different views of the DERMALOG FLC1 Light Edition.



- color camera
- 2 infrared camera

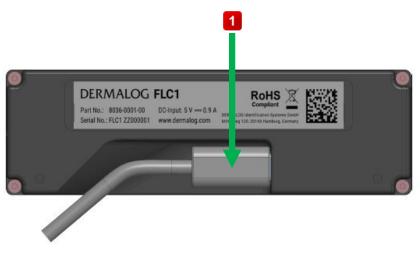
- 3 infrared projector
- 4 thermal camera

Figure 2: Front view of the DERMALOG FLC1 Light Edition



1 UNC 1/4"-20 thread for mounting the DERMALOG FLC1 Light Edition on a a suitable mount, e.g. a tripod

Figure 3: Side view and bottom view of the DERMALOG FLC1 Light Edition



USB 3.0 cable

Figure 4: Back view of the DERMALOG FLC1 Light Edition

6.1.2 Dimensions

Figure 5 shows the dimensions of the DERMALOG FLC1 Light Edition.

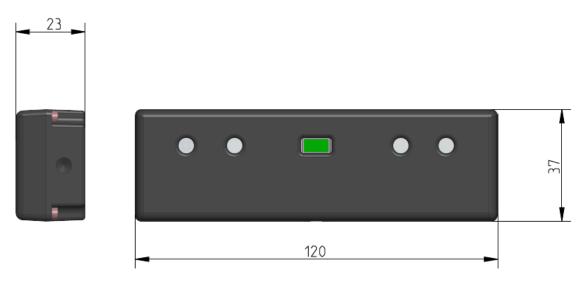


Figure 5: Dimensions of the DERMALOG FLC1 Light Edition

6.2 Available software products

The DERMALOG FLC1 Light Edition is operated with the DERMALOG Fever Detection Application.



For detailed information on the *DERMALOG Fever Detection Application*, see the separate document *DERMALOG Fever Detection Application User Guide*.

7 Installation

Before commissioning the DERMALOG FLC1 Light Edition perform the following steps:

Position the DERMALOG FLC1 Light Edition see chapter 7.1
 Connect the hardware see chapter 7.2
 Install the software package see chapter 7.3
 Calibrate the DERMALOG FLC1 Light Edition see chapter 7.4

7.1 Position the DERMALOG FLC1 Light Edition

NOTICE

Only use the DERMALOG FLC1 Light Edition indoors.

Place the DERMALOG FLC1 Light Edition on a suitable mount, e.g. a tripod.

Observe the recommended temperature range for the DERMALOG FLC1 Light Edition to operate (see chapter 5). To achieve the best possible results, it is recommended to operate the DERMALOG FLC1 Light Edition under the following conditions:

20 °C to 24 °C (68° F to 76 °F), humidity 20-50 %.

Provide adequate space around the DERMALOG FLC1 Light Edition for operation and maintenance. Air circulation is required to cool the device. Do not restrict the air flow around the device.

Use the DERMALOG FLC1 Light Edition only in a dry environment.

Keep the working environment always clean and dust-free.

Do NOT expose the DERMALOG FLC1 Light Edition to:

- direct sunlight
- excessive dust, heat or humidity (for example, through water heater or humidifier)
- an atmosphere where ammonia gas or volatile or flammable chemicals are present (for example, alcohol, paint thinner)
- vibrations
- rapid temperature changes
- magnetic fields (for example, if placed near loudspeakers, televisions or radios)

To achieve optimal results, follow the recommendations from DERMALOG:



Do NOT point the DERMALOG FLC1 Light Edition at a heat source because this may lead to inaccurate measurements of the person's body temperature. The person must also NOT directly be exposed to radiation from heat sources (e.g. from a heater in the room).



Make sure that light sources (e.g. windows) are NOT behind the person. Position the camera such that light sources are behind the camera to ensure frontal lighting.

- The DERMALOG FLC1 Light Edition is positioned at the person's eye level.
- The distance between the person and the DERMALOG FLC1 Light Edition is between 0.5 m and 2 m.

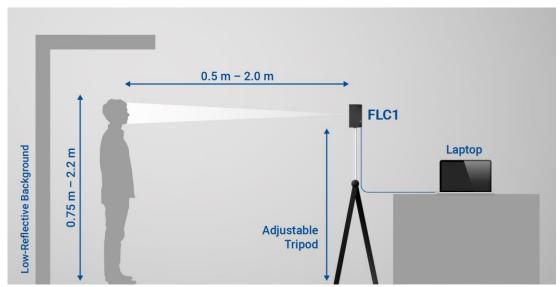


Figure 6: Recommended alignment of DERMALOG FLC1 Light Edition

7.2 Connect the hardware

Prerequisites:

- You comply with the safety instructions (see chapter 3).
- You have positioned the DERMALOG FLC1 Light Edition according to chapter 7.1



If you want to connect the DERMALOG FLC1 Light Edition via a USB hub, always use a self-powered (active) hub.

START:

STEP 1 Check the DERMALOG FLC1 Light Edition and the USB cables for damages and breaks.

If there are any damages and breaks, stop using the DERMALOG FLC1 Light Edition and contact DERMALOG via email to support@dermalog.com.

Otherwise, proceed with Step 2.

STEP 2 Plug the USB-C connector of the USB 3.0 cable into the back port of the DERMALOG FLC1 Light Edition.



The USB-C-connector is the smaller connector on the USB 3.0 cable.

STEP 3 Plug the USB-A connector of the USB 3.0 cable into a USB 3 port of the computer.



Make sure that you connect the USB 3.0 cable to a USB 3 port (<u>not</u> to a USB 2 port). Usually, a USB 3 port on the computer is labelled with **SS** (for SuperSpeed) and is marked with blue color inside the USB 3 port.



No additional drivers need to be installed to operate the DERMALOG FLC1 Light Edition. The standard Windows camera drivers are used.

STEP 4 In the Windows Start Menu, type *Device Manager*, open the **Device Manager** and check that the components of the DERMALOG FLC1 Light Edition are listed (see Figure 7).

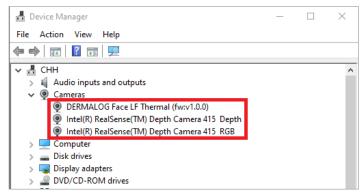


Figure 7: Components of the DERMALOG FLC1 Light Edition

FINISH: You have connected the DERMALOG FLC1 Light Edition to the computer.

7.3 Install the software package



For information on the installation of the software package, see the separate document DERMALOG Fever Detection Application User Guide.

7.4 Calibrate the DERMALOG FLC1 Light Edition



For information on the calibration, see the separate document *DERMALOG Fever Detection Application User Guide*.

8 Terms of Warranty

- 1. As to the products (the "Products") provided by DERMALOG, DERMALOG's warranty should be as follows:
 - 1.1. DERMALOG warrants that all hard- and software were produced with due care and diligence. However, it is agreed that it is not possible in accordance with the state of the art to rule out technical errors under all application conditions. Where this is not possible in accordance with the state of the art at the time of production, warranty claims shall be excluded. Insignificant or minor deviations shall not lead to any warranty claims.
 - 1.2. DERMALOG warrants that the contractual Products are generally described accurately in the product information. The technical data and descriptions in the product information by itself do not represent a warranty of specific qualities. DERMALOG shall not be liable if the program functions do not satisfy the requirements of the customer or work together with own components of the customer in the selection chosen by the customer.
 - 1.3. In case of a defect, DERMALOG, at its sole discretion, shall have the right to remedy the defect or to supply alternative hardware free from the defect. In case of defects of software, the remedy by DERMALOG can be achieved for example, by the provision of an update, by the exchange of the software in whole, or by written and/or oral directives, which avoid the effects of the defect.
 - 1.4. DERMALOG reserves the right to provide updates or to exchange the software in whole or in parts at all times. The customer shall install such updates or exchange the software in whole or in parts if the functions of the software are not materially reduced and if time and effort for the replacement are not unreasonable. There shall be no right to claim for updates or for the exchange of the software in whole or in parts under these terms and conditions except otherwise provided.
 - 1.5. If the customer or a third party undertakes improper modifications or changes to the Products, the warranty shall be void for these and the consequences resulting thereof. If a defect is the consequence of the non-observation of operating or maintenance instructions, all claims and rights of the customer due to defects shall be barred. This shall also apply if the defect is a consequence of incorrect use, storage or foreign influence. For the avoidance of doubt, this exclusion of warranty shall not apply and DERMALOG shall be obliged to render warranty services for a defect when the customer proves that its improper modification, change, or maintenance work neither has caused the defect nor has impeded the identification or correction of a defect.
 - 1.6. Where a defect is found upon investigation not to be DERMALOG's responsibility, DERMALOG reserves the right to charge the customer on a time and materials basis at DERMALOG's then current rates for all costs and expenses incurred by DERMALOG in consequence of such investigation.
 - 1.7. The warranty period for the hardware components terminates after twelve (12) months beginning with the day of the delivery and for software components after twelve (12) months after acceptance of the installation.
 - 1.8. The customer is obliged to inspect the delivered Products immediately after receipt or in case if software to be installed after installment. Any written notification of defects has to be made to DERMALOG within seven (7) calendar days after receipt of the Products, in case of hidden defects within the same period after awareness of the defects. Otherwise, all warranty claims shall be barred.
- 2. As to Support Services, DERMALOG's warranty shall be the following:
 - 2.1. DERMALOG warrants that the Support Service will be performed by competent persons exercising skills appropriate to their qualifications and experience.
 - 2.2. DERMALOG agrees to correct free of charge any inaccurate work at the customer's premises in breach of clause 2.1 provided such inaccurate work is reported to DERMALOG in writing within one month after performance of such work.
 - 2.3. Where a defect is found upon investigation not to be DERMALOG's responsibility, DERMALOG reserves the right to charge the customer on a time and materials basis at DERMALOG's then current rates for all costs and expenses incurred by DERMALOG in consequence of such investigation.

To obtain warranty service, you must first contact DERMALOG via *support@dermalog.com* to determine the problem and the most appropriate solution for you.

9 Ordering information

For ordering information, please contact DERMALOG via sales@dermalog.com.

10 Certificates

10.1 DERMALOG Declaration of CE Conformity

DERMALOG

Konformitätserklärung **Declaration of Conformity**



DERMALOG Identification Systems GmbH, Germany

erklärt, dass das Produkt declares that the product

DERMALOG Fever Detection Camera FLC1

mit den Vorschriften folgender Richtlinien der Europäischen Union übereinstimmt: complies with the requirements of the following directives of the European Union:

> EU-Richtlinie 2014/30/EU EU-Directive 2014/30/EU EU-Richtlinie 2014/35/EU EU-Directive 2014/35/EU

- Elektromagnetische Verträglichkeit

- Electromagnetic Compatibility

- Niederspannung - Low Voltage

Basierend auf Prüfungen gemäß folgender Normen: Based on tests according the following standards:

EN 55032:2015 (Class B)

o EN IEC 61000-6-2:2019

DIN EN 61000-4-2:2009

EN 55035:2017

EMV Multimediageräte und -einrichtungen / Störaussendung

EMC of multimedia equipment / emission EMV Multimediageräte und –einrichtungen / Störfestigkeit

EMC of multimedia equipment / immunity EMV / Störfestigkeit für Industriebereiche

EMC / Immunity, industrial environments
EMC / Immunity, industrial environments
EMC / Storfestigkeit gegen ESD
EMC / Electrostatic discharge immunity
EMV / Storfestigkeit gegen HF-Felder

o DIN EN 61000-4-3:2006+A1:2008 +A2:2010 EMC / Radiated electromagnetic field immunity EN 62368-1:2014 + AC:2015

Sicherheit von Einrichtungen der Informationstechnik Safety aspects for information technology equipment

Die Messungen wurden in folgenden akkreditierten Prüflaboren durchgeführt: The tests were carried out by the accredited testing laboratories:

SLG Prüf- und Zertifizierungs GmbH, Burgstädter Straße 20 D-09232 Hartmannsdorf (Germany)

EMV Services GmbH & Co. KG, Harburger Schloßstraße 6-12, D-21079 Hamburg (Germany)

mbH

Die CE-Kennzeichnung wurde in Übereinstimmung mit der Richtlinie 93/68/EWG am Produkt vorgenommen. Das Jahr der Erstinverkehrbringung ist 2020 The CE marking was done on the product according to the directive 93/68/EEC. The first year of bringing the product into circulation is 2020.

Hamburg, 30. April 2020

Zoburg schäftsführer hief Executive Officer



DERMALOG Identification Systems GmbH, Germany Mittelweg 120 • 20148 Hamburg HRB 69547, Hamburg . Geschäftsführer: Günther W. O. Mull



10.2 Declaration of Conformity with the EU Directives 2011/65/EU and (EU) 2015/863

DERMALOG

Konformitätserklärung Declaration of Conformity



DERMALOG Identification Systems GmbH, Germany

erklärt, dass das Produkt declares that the product

DERMALOG FLC1

mit den Vorschriften folgender Europäischer Richtlinien übereinstimmt: complies with the requirements of the European Directives;

2011/65/EU und (EU) 2015/863 2011/65/EU and (EU) 2015/863

- RoHS II (Beschränkung einzelner gefährlicher Stoffe)
- RoHS II (Restriction of certain Hazardous Substances)

Dies betrifft die folgenden Inhaltsstoffe: This affects the following compounds:

Blei und Bleiverbindungen: Lead and Lead Compounds:

Quecksilber und Quecksilberverbindungen: Mercury and Mercury Compounds:

Cadmium und Cadmiumverbindungen: Cadmium and Cadmium Compounds:

Sechswertiges Chrom und Verbindungen mit Sechswertigem Chrom: Hexavalent Chromium (Chromium VI) and

Hexavalent Chromium Compounds: Polybromierte Biphenyle (PBB): Polybrominated Biphenyls (PBB):

Polybromierte Diphenylether (PBDE): Polybrominated Diphenyl Ethers (PBDE):

Diethylhexylphthalat (DEHP): Bis(2-ethylhexyl) phtalate (DEHP):

Benzylbutylphthalat (BBP): Butyl benzyl phthalate (BBP):

Dibutylphthalat (DBP): Dibutyl phthalate (DBP):

Diisobutylphthalat (DIBP): Diisobutyl phthalate (DIBP):

< 0,1 Gewichtsprozent

< 1000 ppm

< 0,1 Gewichtsprozent

< 1000 ppm

< 0,01 Gewichtsprozent

< 100 ppm

< 0,1 Gewichtsprozent

< 1000 ppm

< 0,1 Gewichtsprozent

1000 ppm

Executive Officer (CEO)

Hamburg, 15.05.2020



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HRB 69547, Hamburg • Geschäftsführer: Günther W. O. Mull



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